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Article

Digital Social Innovation and the Adoption of #PlanTech: The Case of Coventry City Council

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Abstract

The smart city trend has generated considerable interest in using digital technology to transform urban planning and governance, and in the UK the government funded Connected Places Catapult has been given the remit of stimulating innovation in cities. One of its focuses is urban planning and technology (#PlanTech) which has garnered attention from the Royal Town Planning Institute, a vast number of the UK local authorities, academia and technology companies. #PlanTech aims to revolutionise the urban planning industry across public, private and not for profit sectors in an era where fiscal austerity has catalysed a drive for using advanced technologies to improve the efficiency of operations and decision making. Technological innovation is being promoted to enable local authorities to deliver services with significantly reduced financial resources while simultaneously creating a modernised and more efficient public sector. Within this context, this article uses a detailed ethnographic study of planning functions in Coventry City Council, UK, to analyse how they have adapted so far in response to both austerity and the drive for digital innovation. The article concludes by examining how #PlanTech and digital social innovation may help deliver the broader smart city strategy.

Keywords

Coventry; digital social innovation; governance; planning technology; smart cities; UK

Issue

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1. Introduction

Urban planning has transitioned through various paradigms since its inception as a profession in the UK. The Royal Town Planning Institute, the UK’s professional planning authority, was founded in 1914 to set professional standards, conduct and fund research, and progress the discipline. Since 1914 various theoretical frameworks have been adopted by the profession to improve the delivery of planning outcomes for stakeholders. These include ‘systems and rational’ planning of the 1960s which sought to introduce computational and model based approaches to solving urban problems, and more recently, ‘collaborative planning’ which attempts to create an open and democratic approach to delivering solutions that accommodate the needs of all stakeholders and is the basis for contemporary planning practice in the UK (Connell, 2010). Urban planning within the

UK has received criticism for being archaic, burdensome and in need of an overhaul to improve its effectiveness, accessibility and impact (Airey & Doughty, 2020). Now at the dawn of the information economy, technology is increasingly proposed as the solution.

The advent of smart cities has seen a revival of interest in using technology to create urban spaces that can be observed, managed and developed through a distributed network of sensors and widespread data collection/analysis (Kitchin, Lauriault, & McArdle, 2015; Townsend, 2015). Led by multinational technology companies, an ecosystem has evolved in the UK to produce technology for cities, specifically in the fields of property, construction and planning.

Definitions of a smart city have evolved and changed to incorporate different components of the urban system while retaining a fundamental basis of ICT. Mosannenzadeh and Vettorato (2014, p.685) write:

Reviewing the literature shows that the concept of smart city has been developed in three main areas: (i) academic, (ii) industrial, (iii) governmental. Reviewing these literature shows two important points: First, the meaning of smart city is not settled yet; however, there is an agreement on the significant role of ICTs in smart urban development. A simple keyword analysis of existing literature shows the disparity of words used in different definitions which is a sign of controversy in the concept.

The complexity of urban environments means that defining 'smart' operating standards and the associated components is a challenging task that inevitably differs between cities. The foundation of the smart city is a physical infrastructure based on sensor networks embedded across the urban environment which is connected through wireless Internet and interacts with other devices, such as mobile phones and servers, where data is stored, analysed and fed back into the system. Information such as road conditions, location and condition of city assets, and structural information about physical infrastructure can be used for monitoring and proactive management (Cassandras, 2016).

The adjective smart implies the concept of technological innovation (Rosati & Conti, 2016) yet neglects the existing pillars of urban governance. Not only do the ICT chains make economic value, but they also exert social and spatial influences (Florida, 2002; Graham & Marvin, 1996). This implicit bias toward technology has raised concerns about the effectiveness of widespread ICT systems in the democratic governance of cities, of which urban planning is a core function. As a key urban development objective for many cities, the smart city is intrinsically an urban planning issue.

Digital transformation is a key priority for the British Government and has been a central feature of many policies and strategies. For example, the 'industrial strategy' (HM Government, 2019) provides the industrial development goals and mechanisms for delivery. Infrastructure, places, innovation and technical education are among the targets, along with ambition to develop an artificial intelligence (AI) and data economy. To facilitate the development of this data driven economy the government will establish an office for AI that works to deliver efficiencies and digital best practices to the wider public sector. In 2017 the government published its *Government Transformation Strategy* to outline the future provision of public services and administration. Outlining the need to become more adaptive and innovative, the policy recommends transforming the public sector "by harnessing digital to build and deliver public services" (HM Government, 2017).

The Connected Places Catapult (CPC) was established in 2019 (its predecessor Future Cities Catapult was founded in 2011) by the British Government as part of the Innovate UK initiative to foster research and development into emerging industrial opportunities. The CPCs

remit is to "work across boundaries and bureaucracies, bringing demand and supply sides together to unlock new markets and drive growth within complex systems" (Cpcatapult, 2020). Within this, the future cities division is focused on fostering innovation in city related professions by developing new technology-based processes and solutions for challenges faced in these industries. The planning technology team within the future cities division (#PlanTech) has the portfolio relating to innovation in urban planning.

Dinant, Floch, Vilarinho, and Oliveira (2017, p.1) define digital social innovation as a "novel solution to a social problem," it is a delivery mechanism that uses technology to address social needs (Anania & Passani, 2014). It is:

Organised as a public-private partnership based on an active role of citizens and the use of state-of-the-art information technology to engage citizens, to support stronger links (data exchange, visualization) and thus to multiply the potential effect of grass-root initiatives. (Anania & Passani, 2014, p. 1)

Supported by the European Union, digital social innovators are key to advancing the EU's digital agenda.

Research into the role and impact of technology use in planning is not new. Harris (1989) wrote:

The virtue of using computers in planning, and the importance of geographic information systems (GIS) are ideas in common currency that appear everywhere in the planning literature. They influence the organisation of professional meetings, and increasingly help determine the organisation and staffing of planning offices and through this the shape of planning education. (p. 1)

Thus, the use of technology and Planning Support Systems in particular has had implications for both planning practice and urban governance. As the role of technologies grew, how a planner performed their job and indeed the methods used to produce plans changed. Shiode (2000, p. 110) noted that "computers have assisted urban planning and urban management for over three decades" and planning practice has evolved to integrate these systems.

Digital technology has never been more pervasive in business and society. The rapid growth of the Internet, the ubiquitous use of smartphones and portable devices, and the growing digital economy has generated a mass of real time data, much of which has geographical attributes such as co-ordinates. This infrastructure and the data produced are key opportunities for #PlanTech which has 5 broad imperatives: automation, machine learning, public participation GIS, city information modelling and virtual/augmented realities (Thompson, Greenhalgh, Muldoon-Smith, Charlton, & Dolnik, 2016). Much of the ecosystem that currently exists in the UK is working

on solutions that operate on these themes and aims to produce digital systems that can improve delivery of planning in local authorities. Much of this innovation emulates the computer-based planning tools developed in the 1960s and 1970s such as “early generations of Geographical Information Systems (GIS) and Decision Support Systems, used for data management, modelling and strategic planning support” (Geertman & Stillwell, 2003, p. 4). This broad suite of tools developed with the aim to aid in the practice and delivery of urban planning fall under the umbrella term of ‘Planning Support Systems.’

Urban planning digital transformation offers an exciting opportunity for digital social innovation to maximize its social, economic and environmental impact. Similarities exist between the broad objectives of these activities which signals their potential complementarity. For example, urban planning’s role to mediate between the social, economic and environmental (Campbell, 1996) dimensions of urban development in order to deliver urban spaces that function in the public interest, and digital social innovations objective of using technology to deliver solutions to social needs (Dinant et al., 2017), create an opportunity to use technological innovation and deliver on mutual goals.

In the UK Open Systems Lab is a key organisation working at the cross-roads of digital social innovation and planning/construction. Open Systems Lab describes their products as “common platforms that allow any citizen or business to collaborate and compete in society or the economy, usually for free and always without asking permission” (Open Systems Lab, 2020). The organisations ethos is to maximize the citizen sector in digital innovation and “to build a successful, sustainable, fair and inclusive digital economy and to navigate the massive changes of the next half-century, we need to design, invest-in and deploy new open systems for everyone” (Open Systems Lab, 2020). One of their products, PlanX is a platform developed in collaboration with the CPC future cities division. It has been designed to automate and optimise the planning application process for citizens, stakeholders and local authorities. It exemplifies how digital social innovation can transform urban planning and will be discussed in relation to Coventry City Council in Section 3.1.

Within this context, this article will examine the emerging #PlanTech domain and the associated prospects and limitations for digital social innovators to deliver the next generation of ‘Planning Support Systems,’ suitable for integration into the smart city strategy of a medium sized local planning authority: Coventry City Council, UK. The remainder of the article is divided into five sections. The first section will outline the research question, methods and objectives for this article. The second will unpack the planning and local government context in Coventry and illuminate its efforts at digital transformation. The third section will look at the platforms proposed to aid digital transformation in the

planning department. The fourth section will examine this case study within the broader trend towards smart cities and the role of digital social innovation on the delivery of #PlanTech. Finally, the conclusion will summarise the article and outline areas for future research.

2. Objectives

This article uses an ethnographic methodology (Brewer, 2000) to investigate how technology is increasingly being promoted to allow councils to deliver planning functions while adapting to austerity driven funding cuts and simultaneously improving service delivery and planning outcomes for stakeholders. Mixed methods were used including participant observation for a period of two months, 20 semi-structured interviews and five focus groups. Secondary data analysis involved document review of local plans, policies, and materials related to ICT, procurement and organisational performance, including reports and statutory publications.

Two research questions guide this study:

HQ1: What are the driving forces behind the adoption of technology as a means to deliver planning services in local authorities?

HQ2: What are the implications for planning governance and delivery in local authorities?

The aim of this article is to examine the motivations for employing technological solutions in the form of #PlanTech, and the subsequent implications for the profession. It aims to examine the role of planning technology as a driver of smart city strategy and place this transition within a broader socioeconomic context using a case study of Coventry City Council. As an emerging trend #PlanTech is an understudied phenomenon therefore this article will add to the literature regarding the policy driven digital transformation of urban planning.

3. Digital Transformation of Planning Functions at Coventry City Council

Coventry City Council is a Local Authority in the West Midlands region of the UK serving a population of 366,800 as of 2018 (Coventry City Council, 2020). It has responsibility for urban planning within the city of Coventry and statutory strategic planning powers alongside its neighbouring authorities to deliver on regional development requirements. Since 2010, Coventry Council, like all local authorities in the UK, has faced significant cuts to its funding from central government. Approximately 50% (£655m) of funding has been lost due to the Coalition government austerity policies which are designed to reduce the national deficit whilst still producing ‘more for less.’ This dramatic reduction in financial resources has led to organisational restructuring and reduced spending on public services in the city. Staff levels

across both planning teams has dropped by 33% since 2010 as a result of reduced budgets.

Planning in Coventry City Council is administered through two separate but interlinked divisions. The development management team processes planning applications, conducts planning enforcement and administers the Council's environmental health/protection functions. The planning policy team produces local development plans, conducts plan monitoring exercises and manages conservation and ecology issues in the council area. Since September 2018 senior management have been examining the planning workflow and processes to find efficiencies and cut costs, increasingly turning to technological solutions in line with the Council's digital strategy. Published in 2017 the 'Digital Coventry' strategy outline the Council's commitment to digital transformation, stating:

The digital revolution matters to Coventry because digital changes create the opportunity for innovation and growth, improving the lives of Coventry's residents and helping the council to deliver outcomes in a more effective and efficient way, working with partners and residents. (Coventry City Council, 2017)

As a signatory to the Local Digital Declaration (Ministry of Housing, Communities and Local Government, 2018), Coventry has agreed to provide many of its services through digital formats. This is intended to allow the council to reduce operating costs while hopefully improving customer experience and satisfaction.

To facilitate this digital transformation, the development management and ICT teams at Coventry City Council have been investigating potential applications for digital tools in planning alongside the CPC and other private sector consultants. Private technology companies are currently the main providers of software and technological solutions procured by the council. The current organisational goal is to automate as much of the planning workflow as possible. This is intended to reduce the volume of administrative work that planners conduct, theoretically freeing staff to undertake more creative and skilled tasks.

3.1. Change, Technology and Procurement at Coventry City Council

Under consideration as of August 2019, the council has received proposals for the following: First, an AI powered 'Chat Bot' that handles customer queries related to planning. Offered by In-Form Consultants, a private UK firm, the product is designed to handle customer enquiries used data from the Council's website. In-Form state that the benefit of this product is its ability to handle unlimited enquiries, offering a much more efficient and cost-effective method over traditional human operators. In-Form Consultants have sold this product to other Local Authorities and state that one of their customers,

Tower Hamlets in London, has seen a 310% return on investment in 2017 (In-Form Consultants, 2019).

Second, a 'Customer Relationship Management' system provided by Arkus Consultants and built on Salesforce infrastructure. The 'Customer Relationship Management' is designed to open up the Council's data, across all departments, and "connect everything, innovate experiences and deploy solutions in the cloud" (Salesforce, 2019). The 'Customer Relationship Management' will be a full front and back end system that drives service improvements while removing bureaucratic silos. A further product, Radian6, has been offered as a 'social listener' which analyses social media for activity relating to council business, offering an opportunity for proactive city management.

Third, Idox is a UK based technology consultancy that provides services to 90% of UK Local Authorities. They have developed solutions specifically for planning departments aiming for digital transformation that involves using AR/VR for engagement and consultation, AI for geospatial analysis, Blockchain for contract management and Drones for inspection, data collection and mapping. All the data generated by the systems will feed into a modern digitised smart planning service (Idox Group, 2019).

Private consultancies selling 'out of the box' products are not the only options. The CPC has stimulated research and development into the #PlanTech sector by providing funding and initiating competitions where tech start-ups, SME's and academia are invited to design digital products that can improve the UK planning system with technological and data-oriented solutions. A number of these initiatives have gained recognition as alternatives to the private sector options. Coventry City Council has been investigating the potential to integrate Open Systems Lab PlanX platform, which has been adopted by Southwark Borough Council in London, to automate the processing of planning applications. Open Systems Lab "is a non-profit R&D lab working on open digital innovation for industry and society" (Open Systems Lab, 2019). Working with the CPC and Southwark Borough Council, Open Systems Lab has developed PlanX to move the planning system away from a paper based, legacy system, towards a digital, streamlined and data driven system. Open Systems Lab works with councils to ensure that the system is bespoke and adapted to suit specific organisational requirements: "The most important thing about PlanX is that the guides (or 'flows') are written and controlled by councils themselves, putting planners in control" (Open Systems Lab, 2019).

The PlanX system aims to collate all the relevant policy documents and associated information that is pertinent for a particular type of development and provide it to the applicant. The online portal will guide each applicant through the application process, providing assistance and advice as the application progresses. This will streamline the application process for the applicant and

significantly reduce the workload of planners in local authorities. PlanX (Table 1) provides estimates of efficiencies the system will provide.

The cost of PlanX is determined by the size of the local authority. Prices range from £10,000 to £30,000 and are charged on annual subscription basis. Additional training and support is also offered as add on packages. Table 2 below shows the price range.

As a not-for profit organisation, Open Systems Lab have made the source code for PlanX free under a 'public service use' license. This enables local authorities without the financial resources to purchase a subscription to use the code to implement PlanX without paying for a subscription. Local authorities that wish to do this will need sufficient in-house expertise to adapt the software to their organisational needs. This could mean that planning staff are replaced by ICT staff, or planners are trained in these technical fields.

#PlanTech at Coventry City Council is still in its infancy, referring to the councils broader digital transformation, an ICT project manager explained "we are still in the early stages of looking at automation, we still don't have a back-end infrastructure in yet" (July, 2019). The council is currently in the process of installing a new 'back-end' ICT infrastructure, such as updated servers, operating systems and connectivity, that can support newer technologies, including 'cloud computing.' As such, the digital transformation of planning has not progressed beyond initial investigations into the potential solutions discussed above. In addition to the automation of development management, the CPC has also worked with stakeholders to produce tools that can in-

form planning policy, beyond the traditional methods. These tools include GrowthPlanner which is a tool that combines the intelligence held by utility companies and planners allowing both parties to assess the capacity of existing infrastructure for supporting developments. GrowthPlanner "combines models and visualises strategic information so utilities and planners can work closely together, today and in the future" (Future Cities Catapult, 2018, p. 16). It uses these models to identify where spare capacity exists on the network and highlights potential constraints such as flood plains and conservation requirements. Another example is 'Land Information Platform' which was developed in conjunction with the Department for Communities and Local Government. This tool uses machine learning to identify potential sites for development and aims "to draw together different data sources, urban modelling techniques and user workflows to support the development of more informed policies and decisions. It would provide planners, developers and citizens with a clearer view of the choices and trade-offs required of planning, as well as acting as a platform for others to build #PlanTech products and services" (Future Cities Catapult, 2018, p. 18). These prototypes offer examples of the #PlanTech that can aid the work of Coventry's planning policy team when they begin to engage with digital transformation.

4. Discussion

The financial crisis of 2008 and its implications for public finances paved the way for the 2010 Coalition government of the Conservative and Liberal Democrat parties to

Table 1. Projected workload efficiency for PlanX.

	Without PlanX	PlanX 1.0 Target	PlanX 3.0 Target
Phone and email enquiries	1000+ per month	50% by officers	5% by officers
Pre-application meetings	30min–1hr	5–10min	—
Reviewing small applications	1–2hrs	10–15min	—
Certificates of Lawfulness	30min	5min	0min
Invalid applications	50% invalid	—	0% invalid

Source: Open Systems Lab (2019).

Table 2. Price plans for PlanX annual subscription.

	Band	Decisions per year	Price	
	A	Up to 750	£10,000 + VAT	
	B	Up to 1000	£15,000 + VAT	
	C	Up to 1500	£20,000 + VAT	
	D	Up to 2000	£25,000 + VAT	
	E	Over 2000	£30,000 + VAT	
Add-ons	Editor training	Co-Writing	Testing workshop	Presentations
	£2,000 + VAT	£5,000 + VAT	£2,000 + VAT	£500 + VAT

Source: Open Systems Lab (2019).

pursue austerity policies that dramatically reduced public spending as a means of decreasing the national budget deficit. The constraints faced by local authorities created an opportunity for technology companies to design and deliver products that aid delivery of services with limited capacity. Increasingly, public sector organisations have adopted novel practices and tech solutions. This context provided the stimulus for technological innovation in the public sector, including the emerging trend in #PlanTech.

The political climate in the UK has major implications for planning and the public sector in general. Since Margaret Thatcher implemented neoliberal policies in the 1980s, the public sector has faced significant reductions in the funding received from central government when the Conservative party is in power. This has historically put major strain on the ability of local authorities to deliver core priorities and pushed some close to bankruptcy, such as Northamptonshire County Council in 2018 (Butler, 2018). Zuboff (2019, p. 49) writes that “by 2015, austerity measures had eliminated 19%, or £18 billion, from the budgets of local authorities and had caused 150,000 pensioners to no longer enjoy access to vital services.”

Coventry City Council’s corporate plan (One Coventry 2016–24) outlines the organisational objectives for the 8-year period 2016–2024. A key objective is to “deliver our priorities with fewer resources” (Coventry City Council, 2016, p. 8). The council is adapting to the current economic climate in the UK, one of austerity, by reducing operational costs through workflow optimisation and automation. As discussed earlier a 33% reduction in staff levels since 2010 has already impacted the planning team. This raises significant questions about the corporate rationale for digital transformation and potentially undermines any significant gain to the delivery of planning and planning outcomes through the adoption of #PlanTech. Automation of the planning workflow will free planners time and improve the team’s performance against targets. This improvement may result in fewer planners being employed as the council aims to utilise resources in the most cost-efficient way. #PlanTech may be touted as a method to improve planner’s ability to use their creative and professional skills, yet the actual outcome of this transformation may undermine the need for planners in local authorities and result in a further reduction in staff.

The shift towards ever greater technological integration can be traced by to the 1994 *Bangemann Report* (European Commission, 1994). Published by the European Commission it set the course for states and economies to use technology as a means of ensuring competitive advantage. It urges:

The European Union to put its faith in market mechanisms as the motive power to carry us into the information age. This means action must be taken at the European level and by member states to strike down

entrenched positions which put Europe at a competitive disadvantage. (European Commission, 1994, p. 9)

Explicitly encouraging the use of the market to develop and deliver technological solutions and products, the *Bangemann Report* encourages national states to foster technological innovation to ensure that they remain economically competitive in the global market. The government of the UK, along with other EU member states and other nations, has embraced this recommendation and produced policies to aid the delivery of an information economy. Working with private sector companies through public–private partnerships, the government has so far delivered an infrastructure including fixed line broadband, with plans to upgrade telecommunications networks to 5g standards to support the information economy and contracted the development of digital public services to technology companies.

How #PlanTech will impact planning is still an open question. The CPC team leader for #PlanTech stated the rationale for focusing on planning innovation:

Planning is behind the times. Digital is affecting the places we live and the people who live in these places. No-one was operating successfully in this sphere and the market was not delivering or innovating in this area. Digital innovation in planning is necessary to provide good places in future cities. (November, 2019)

Coventry’s early stage of transformation shows a potential crossroads, on the one hand public-private partnerships are increasingly being used to deliver public services through privately designed and rolled out solutions that automate workflows and other planning tasks. As planning departments in local authorities continue to adopt digital solutions and practices that are designed and maintained by private companies, it is feasible that many planning tasks are performed by software rather than planners. In this scenario it is reasonable to anticipate local authorities delivering urban planning through a form of neoliberal technocratic partnerships with private digital companies, many of which already have significant interests in legacy IT systems used by these local authorities. On the other hand, there is potential for organisations like Open Systems Lab to gain a foothold in what is expected to be a rapidly growing sector. The use of not-for-profit digital social innovators could offer an alternative to the public-private partnerships delivery mechanism. By engaging digital social innovators and the third sector to design #PlanTech that incorporates the needs of communities and citizens and utilises the insights that technology can deliver, local authorities could produce better planning outcomes.

Local authorities using digital social innovation to design and deliver services will also contribute to establishing the principles that define a smart city. The Vienna University of Technology (2007) defined these principles as: 1) smart economy—a competitive, glob-

ally integrated economy based on innovation and entrepreneurialism; 2) smart people—citizens are educated, engaged and committed to public life and lifelong learning; 3) smart living—urban life promotes health, culture, cohesion and progress; 4) smart environment—natural resources are protected and managed to flourish; 5) smart governance—people are involved with public agencies to aid better delivery of services; and 6) smart mobility—open, accessible and low carbon transport promotes mobility.

PlanX indicates how digital social innovation can deliver on these principles, specifically smart economy, smart people and smart governance, and other digital social innovations in #PlanTech could assist in delivering the remaining living, environment and mobility principles. Government coordination and support will key to the success of digital social innovation in #PlanTech and a smart city based on these principles, however, current governance arrangements are likely to pose a barrier to adoption. Urban planning as a function of local government is embedded in the institutional and regulatory frameworks that oversee the performance and compliance of these organisations. Often a complex and interdependent regulatory regime exists which entrenches practices within local authorities, stifling innovation and change. One example of the many barriers that digital social innovation faces in delivering planning functions is that currently all local authorities in the UK must receive accreditation from the Public Services Network with regard to use of IT software and equipment to manage the associated risks with these systems and storing personal information of thousands of local residents. An IT manager at Coventry City Council stated that “without this accreditation the council cannot accept online payment or offer many of its digital services. It is essential to the functioning of the council” (May, 2019). In 2017 the government stated that the Public Service Network accreditation will be eventually phased out which could allow digital social innovators to design solutions that deliver public services, however, many other restrictions and barriers remain.

5. Conclusion

An increase in the uptake of planning technology is likely to have impacts on how planning is performed in local authorities. There is growing acknowledgment that the planning system in the UK is not fit for purpose and needs significant reform (Airey & Doughty, 2020). Top down policy from central government regarding digital transformation is a major driving force behind the #PlanTech ecosystem. Along with other public services, technology is increasingly seen as a desired and optimal method of delivering planning and unlike the 1960s trend for ‘systems and rational’ planning, the contemporary focus on #PlanTech is based on an economic transition into the information economy (Castells, 1996). In the UK, the CPCs work with small-medium enterprises, not for profit or-

ganisations and local authorities to develop digital solutions that can enhance planning services and outcomes for communities will be vital for motivating and guiding digital social innovation in #PlanTech. This will feed into the smart city strategy being implemented by local authorities across the country. In Coventry there is evidence that the initial phase of #PlanTech will seek to automate administrative tasks including the processing of planning applications. This should create efficiencies that translate into better plan-making were staff have more time to focus on the creative and skilled areas involved in the profession. Fundamentally, it is important to consider the political and regulatory climate in which local authorities operate. For example, the European Union’s General Data Protection Regulations (European Court of Justice, 2019), Article 22(1) states that “the data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her.” This provision means that despite the use of automated processing software for planning applications, the final decision must be made by a planner. By keeping a ‘human in the loop,’ planning decisions will still ultimately be made by planners. Whether this clause or one like it will affect #PlanTech after the UK definitively leaves the European Union is uncertain. Many other regulatory and governance issues that inhibit or restrict the adoption of digital social innovation remain, identifying and overcoming these is a necessary focus of future research.

Overall, this article identifies how the policy objective of digital transformation of planning is being tackled by a medium sized UK local authority. The case study analysis highlights the competition between technology vendors for contracts, and also the challenges faced by digital social innovators such as Open Systems Lab when it comes to gaining a foothold in the process of planning’s digital transformation. Among planners there is a clear appetite for utilising the skills and services of digital social innovators, but there appears at present to be a number of policy conflicts which prevent the widespread adoption of digital social innovations to address the constraints facing planning departments as a result of austerity driven budget cuts. An example of this clash of policy is the EU and UK government backing of digital social innovation as a driver of innovation, yet in practice governance and legal requirements such as the Public Service Network accreditation act as a barrier to entry for these organisations.

The adaptable and bespoke technological solutions offered by digital social innovators such as Open Systems Lab offer a novel and productive toolkit that may increase performance beyond the capabilities of ‘out of the box’ solutions from multinational vendors, therefore it is recommended that the current governance and legal frameworks are adjusted to enhance the ability of these organisations to enter the marketplace for planning technologies with UK local authorities. Removing these bar-

riers of entry could spur further innovation and interest, enhancing the quality of technological solutions and thus the planning advantages and outcomes for planners, local communities and stakeholders.

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Conflict of Interests

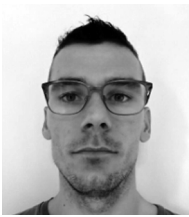
The author declares no conflict of interests.

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